



Atty Docket: 15-SV-6119

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Paul L. Mullen et al. : Group Art Unit: 2141

Serial No.: 09/683,611 : Examiner: Nguyen, Q.N.

Filed: January 24, 2002

Title: SYSTEM AND METHOD FOR UNIVERSAL REMOTE  
ACCESS AND DISPLAY OF DIAGNOSTIC IMAGES  
FOR SERVICE DELIVERY

Hon. Commissioner for Patents  
Alexandria, VA 22313-1450

**DECLARATION OF INVENTORS SWEARING BACK  
OF REFERENCE PURSUANT TO 37 CFR § 1.131**

We, PAUL LAWRENCE MULLEN and HUBERT ANTHONY ZETTEL,  
respectively hereby declare as follows:

We made and conceived the invention described and claimed in patent application Serial No. 09/683,611 filed in the United States of America on January 24, 2002, and entitled SYSTEM AND METHOD FOR UNIVERSAL REMOTE ACCESS AND DISPLAY OF DIAGNOSTIC IMAGES FOR SERVICE DELIVERY.

We conceived and reduced to practice the invention recited in at least claims 1, 7, 9, 12, 15, 18 and 20 of the above-referenced patent application in the United States of America while in the employ of General Electric Company (hereinafter "GE").

Annexed Exhibit A is a photocopy of a GE Medical Systems Invention Disclosure Form dated April 9, 2001 and signed by the

inventors as well as two witnesses.

We believe that Exhibit A shows that the subject matter recited in at least claims 1, 7, 9, 12, 15, 18 and 20 was conceived no later than April 9, 2001.

The subject matter disclosed in Exhibit A dated April 9, 2001 and recited in at least claims 1, 7, 9, 12, 15, 18 and 20, which were included in the above-referenced patent application filed only 9 months later, was never abandoned or suppressed.

Furthermore, although the above-referenced patent application was filed on January 24, 2002, the Combined Declaration and Power of Attorney for Patent Application submitted on that date was executed by both inventors on December 4, 2001.

No changes to the patent application were made after the inventors executed the Declaration on December 4, 2001. Thus, the subject matter recited in all of pending claims 1-23 was conceived no later than December 4, 2001 (i.e., prior to the publication date of the Babula *et al.* reference cited by the Examiner).

Each of the undersigned inventors declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of

Atty Docket: 15-SV-6119

the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of first joint inventor: PAUL LAWRENCE MULLEN

Inventor's signature: \_\_\_\_\_ DATE \_\_\_\_\_

Residence: Waukesha, Wisconsin  
Citizenship: United States of America  
Post Office Address: 2825 Rolling View Drive  
Waukesha, WI 53188

Full name of second joint inventor: HUBERT ANTHONY ZETTEL

Inventor's signature: Hubert Anthony Zettel DATE 4/15/2005

Residence: Waukesha, Wisconsin  
Citizenship: United States of America  
Post Office Address: W225 S4375 Guthrie Road  
Waukesha, WI 53189

Cynthia M. Connor - Notary  
Notary Public, State of Wisconsin  
Milwaukee County

4/15/05

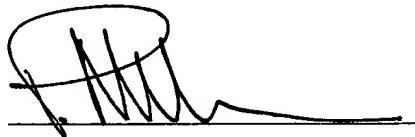


Atty Docket: 15-SV-6119

the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of first joint inventor: PAUL LAWRENCE MULLEN

Inventor's signature:



4/22/2005  
DATE

Residence: Waukesha, Wisconsin

Citizenship: United States of America

Post Office Address: 2825 Rolling View Drive  
Waukesha, WI 53188

Full name of second joint inventor: HUBERT ANTHONY ZETTEL

Inventor's signature:



DATE

Residence: Waukesha, Wisconsin

Citizenship: United States of America

Post Office Address: W225 S4375 Guthrie Road  
Waukesha, WI 53189



Atty Docket: 15-SV-6119

CERTIFICATE OF MAILING

The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date set forth below.

May 18, 2005

Dennis Flaherty  
Dennis M. Flaherty

 <b>GE Medical Systems</b> <b>Invention Disclosure Form</b> <small>APR 2001</small>	Docket No.: <u>15-SV-6119</u> Mail to: PATENT OPERATION, W-710 Date Received: _____
<p>3000 North Grandview Blvd., W-710  P.O. Box 414, Waukesha WI 53188  (262) 544-3028; Dialcom: 8*320-3028</p>	

- Use as many pages in this word document as necessary. "Do not type in the gray portion, but underneath in the white space. Please give a response for each section."
- You may attach additional materials to support this disclosure, for example, Tech Notes and Drawings. Such submitted materials must be referenced in this disclosure form. Each page of these materials must be dated, signed and witnessed in the same manner as this invention disclosure.
- This form will help you provide the Legal Department with the information it needs to evaluate and file a patent application on your new or enhanced product/solution/tool/process.

**MODALITY:** (for example: CT/MR/Ultrasound/X-Ray)

Services business

**INVENTION TITLE:** *Provide a unique, descriptive title. If you write this disclosure in a language other than English, please provide a title in English as well. Si vous rédigez en français, merci de proposer un titre en anglais et un titre en français.*

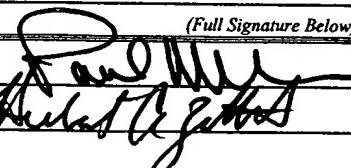
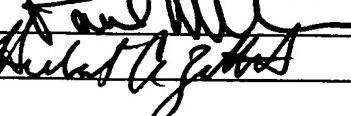
Method for Universal Remote Access and Display of Diagnostic Images for Service Delivery

**PROBLEM/BACKGROUND:** *Describe the problem that is solved by the invention. Assume that the reader has a basic knowledge of your diagnostic imaging modality and related technologies.*

Typically remote access to diagnosis and troubleshoot image quality of diagnostic imaging equipment is restricted to capabilities used by the various OEM device Service organizations and is not available to other multi-vendor servicers. Most images are now transferred over a network using an industry standard protocol called DICOM. This invention provides ability to interrogate free flowing DICOM information on a network and retrieving the device specific information without disrupting equipment operation or requiring additional software/hardware to be added to the equipment to obtain access, and the ability to remotely access and review the acquired data.

**INVENTION DESCRIPTION:** *Describe how the invention works and how it solves the problem posed above.*

DICOM Troubleshooting Software developed by GEMS used initially to diagnose DICOM protocol functionality on a hospital network is installed on a PC or similar device on the hospital network. This troubleshooting software has many functions that help to assure proper operation of equipment that use the DICOM standard. One of the basic functions of this software is to examine all streams of information transmitted by diagnostic imaging equipment that are on the network. Since the information on the network is in a DICOM format, it is equipment OEM independent. This ability to examine or "sniff" all DICOM information on the network would allow additional software to be written to take the information gathered by the "sniffing" software and collect only the specific information regarding the desired diagnostic imaging equipment. With the images collected in an independent fashion from the network, they could then be transferred to a remote Service Support Workstation for analysis by a Service Support Engineer. Furthermore, the combination of the sniffing capability along with a PC running GEMS iLinq remote Service application would essentially permit faster customer initiation of potentially helpful troubleshooting data to GEMS support personnel located remotely.

INVENTORS <i>(Print or Type Name Below)</i>	<i>(Full Signature Below)</i>	GE	NOT GE	DATE
* Paul Lawrence Mullen		X		9-APR-01
Hubert Anthony Zettel		X		4/9/2001

\* = Primary Contact Inventor (to coordinate with Patent Evaluation Board and Preparing Attorney)

Read and Understood By:

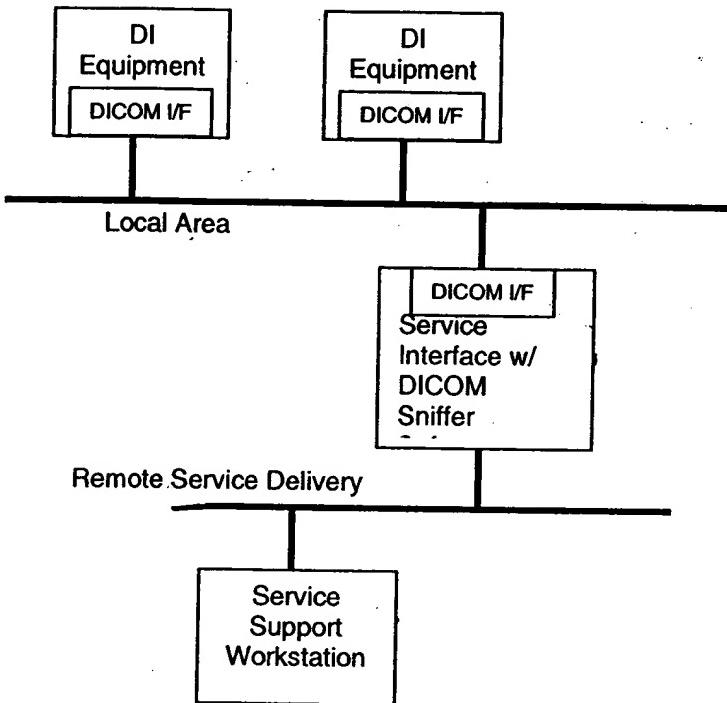
2 WITNESSES (Mandatory) <i>(Print or Type Name Below)</i>	<i>(Full Signature Below)</i>	DATE
Michael Evan Kelly		April 9, 2001
Don Trombatore		4/9/2001



# GE Medical Systems Invention Disclosure Form

Page 2

**DRAWING:** Make as accurate a sketch or computer generated figure of your invention as you can and embed it into or attach it to this form. It need not be a drawing to scale, but should be complete enough to show what you have in mind. If you already have suitable photographs, sketches, software flowcharts or finished drawings, they may be used.



BEST AVAILABLE COPY

**ADVANTAGES OF THE INVENTION:** Describe the benefits of the invention, both in technical terms (e.g., stronger new application, faster imaging, etc.) and business terms (for example, cost savings, product efficiency, etc.).

This invention would not require software or hardware to be installed on the diagnostic imaging equipment in order to retrieve the images, which would otherwise require unique software or hardware per each OEM equipment model. The invention would allow access without disrupting the normal operation of the equipment. Additionally, this capability provide both a networking diagnostic support capability as well as a multi-vendor diagnostic imaging equipment remote service support capability. This capability can be extended to a plurality of medical devices that support an industry recognized communications protocol, such as HL7, Unity and the like. In this instance for diagnostic imaging, DICOM is the preferred embodiment.

INVENTORS (Print or Type Name Below)	(Full Signature Below)	GE	NOT GE	DATE
* Paul Lawrence Mullen		X		9-APR-01
Hubert Anthony Zettel		X		4/9/2001

\* = Primary Contact Inventor (to coordinate with Patent Evaluation Board and Preparing Attorney)

Read and Understood By:

2 WITNESSES (Mandatory) (Print or Type Name Below)	(Full Signature Below)	DATE
Michael Evan Kelly		Apr 19, 2001
Donald Trunfatore		4/9/01



# GE Medical Systems Invention Disclosure Form

Page 3

**PRIOR ART:** Based on what you know, please list all commercial uses (not necessarily by GE), publicly available articles or publications, issued GE or non-GE patents or previous GE invention disclosures relating to your invention. You should identify those references that you believe attempt to address the same problem as your invention.

There may be tools provided by healthcare networking companies that provide analysis of DICOM information for the purpose of proper diagnostic imaging equipment operation on a network. To our knowledge these tools have not been adapted for general purpose servicing or in the provision of remote service access or support, especially for access to multi-vendor equipment by OEM servicers.

**CLAIM OF NOVELTY:** Describe what is novel, unique, non-obvious about this invention compared to previous designs or solutions identified in the Problem/Background or Prior Art sections. "Obvious" is defined with respect to an individual with an average working knowledge of the general area. Be careful; what is obvious to you, as a specialist, may not be obvious to someone with an average working knowledge. You should err on the side of assuming that your invention is non-obvious.

The novelty of this invention is in the capture of imaging information from the local area network without the addition of hardware or software to the diagnostic imaging equipment being monitored and providing this information to allow remote support of multi-vendor diagnostic imaging equipment. It also allows a single access solution for the multitudes of DI equipment OEM's and models that may be within a customer's facility.

BEST AVAILABLE COPY

INVENTORS (Print or Type Name Below)	(Full Signature Below)	GE	NOT GE	DATE
* Paul Lawrence Mullen		X		9-APR-01
Hubert Anthony Zettel		X		4/9/2001

\* = Primary Contact Inventor (to coordinate with Patent Evaluation Board and Preparing Attorney)

Read and Understood By:

2 WITNESSES (Mandatory) (Print or Type Name Below)	(Full Signature Below)	DATE
Michael Evan Kelly		April 9, 2001
Donald Trombatore		4/9/2001

## **SUMMARY QUESTIONS FOR INVENTION DISCLOSURE**

(The answers to these questions will help the modality PEB with the patent filing decisions they make.)

**1) DESCRIBE ANY RECENT WORK ON DEVELOPING AND DEMONSTRATING THE IDEA AT GEMS! Has feasibility been proven? How? Is there a prototype?**

DICOM Doctor Tools Set provides the rudimentary capability. Yes, there is a prototype of the software, and by extension to the process of transferring the result information to GEMS using InSite.

**2) ARE THERE ANY PLANS TO USE THE INVENTION IN A PRODUCT? Give Product/Program name and milestone dates if known. Has this invention been identified as a program deliverable?**

This invention has been proposed as a solution Multi-Vendor Image access for our MV Service business in the 2001 WWPP.

**3) WHAT ARE THE PLANS OR DESIRES TO PUBLISH? It is absolutely critical to identify the earliest possible public disclosure of the invention for legal reasons. This may include publication, installation of prototype, trade shows, etc. GEMS can lose the right to patent an invention by premature/public disclosure.**

The product would be developed in '02. Any publication would be related to commercial announcement of the capability.

**4) DESCRIBE ANY KNOWN RELEVANT COMPETITOR ACTIVITY. Are any competitors working on solutions to the same problem? Have any competitors addressed the same problem?**

None at this level. Other vendors may provide DICOM diagnostic tools, but not extending those tools for doing remote servicing of DI equipment.

**5) WAS THIS INVENTION DEVELOPED IN THE COURSE OF A PROJECT WHICH WAS FUNDED IN PART BY AN ENTITY OTHER THAN GE? Has any work been done, for example, with Government funding, university collaboration, even if such funding was provided indirectly, as via CRD?**

No.

**6) WHAT IS THE EARLIEST TANGIBLE DOCUMENTATION OF THIS INVENTION? Is it a lab notebook, engineering report, etc., or this disclosure document? If not this document, please provide a reference and a date.**

The WWPP for Service Delivery shows a DICOM Doc for Multivendor line item. This disclosure represents the details of a discussion outlining the basis for this invention between Paul Mullen and Hubert Zettel on March 16, 2001, at Paul Mullen's office.

**7) HOW MUCH DIFFICULTY WOULD A COMPETITOR EXPERIENCE IN TRYING TO DESIGN AROUND THIS INVENTION? Are there many ways of relatively equal difficulty to solve the problem, or is the invention a unique solution in terms of benefit and simplicity?**

It would be difficult to design around this invention, other than trying to develop a direct hardware and software interface directly on the product. The other option would be to assign a Service Workstation as a DICOM receiver on the network, but in this case the Service Workstation would receive all images, and customers, as a general rule would not configure such a device on their network.

**BEST AVAILABLE COPY**